THE MINT

AT NEW ORLEANS;

WITH AN ACCOUNT OF THE PROCESS OF

COINAGE.

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THE MINT.

PART I.

History and Statistics.

The Branch Mints of the United States were established by act of Congress, on the 3d of March, 1835. The edifice of the New Orleans Mint, occupying, by perpetual grant from the city, what was formerly called Jackson Square, between Barrack and Esplanade streets, Old Levee street and the river, was planned by William Strickland, architect. The building was begun in September, 1835, and finished in 1838, at a cost of $182,000. Total length, including the wings, 282 feet; depth of the main building 108 feet. The wings are 29 by 81 feet. In addition, the iron fence inclosing the square, out-door improvements, the machinery, furnaces, fixtures, apparatus and implements, cost near $118,000, making a total cost of near $300,000. The annual expense to Government, in maintaining the Mint in operation, is about $52,000.

It will be seen below that the coinage of the present year, thus far, falls proportionately short, when compared with 1843 and 1844. This result has been solely owing to the state of foreign exchanges, which were against us in the early part of the season.

Detailed Statement of the Coinage, year by year, at the Branch Mint, New Orleans, from the Commencement of its Operations to the 31st October, 1845:

....1838....

	No. of Pieces.
Dimes	402,430
Amount	$40,243

....1839....

Quarter-Eagles	9,396
Half-Dollars	116,000
Dimes	1,291,600
Half-Dimes	1,060,000

Value of Gold $23,490, Silver $240,160—Total $263,650

....1840....

Half-Eagles	30,400
Quarter-Eagles	26,200
Half-Dollars	855,100
Quarter-Dollars	425,200
Dimes	1,175,000
Half-Dimes	935,000

Value of Gold $217,500, Silver $698,100—Total $915,600

....1841....

Eagles	2,500
Half-Eagles	8,350
Quarter-Eagles	7,380
Half-Dollars	401,000
Quarter-Dollars	452,000
Dimes	2,007,500
Half-Dimes	815,000

Value of Gold $85,200, Silver $555,000—Total $640,200

....1842....

Eagles	27,400
Half-Eagles	16,400
Quarter-Eagles	19,800
Half-Dollars	957,000
Quarter-Dollars	769,000
Dimes	2,020,000
Half-Dimes	350,000

Value of Gold $405,500, Silver $890,250—Tot. $1,295,750

....1843....

Eagles	175,162
Half-Eagles	101,075
Quarter-Eagles	368,002
Half-Dollars	2,268,000
Quarter-Dollars	968,000
Dimes	150,000

Val. Gold $3,177,000, Silver $1,391,000—Tot. $4,568,00

....1844....

Eagles	113,700
Half-Eagles	364,600
Half-Dollars	2,005,000
Quarter-Dollars	740,000
Half-Dimes	220,000

Val. Gold $3,010,000, Silver $1,198,500—Tot. $4,208,500

....1845, to 31st Oct....

Eagles	43,500
Half-Eagles	37,000
Half-Dollars	1,660,000
Dimes	230,000

Value of Gold $620,000, Silver $853,000—Tot. $1,473,000

....SUMMARY....

Total number of pieces coined	23,967,347
" value of Gold	$ 7,538,690
" value of Silver	5,886,253
" value of the coinage	13,404,943

The first appointment of officers to this Mint was made in March, 1837, as follows:

David Bradford, Superintendent; removed in 1839.

Edmond Forstall, Treasurer; removed in 1839.

James Maxwell, Melter and Refiner; died in 1839.

Rufus Tyler, Coiner; died in 1839.

William P. Hort, Assayer.

In 1839, the Mint was re-organized by the appointment of the following officers:

J. M. Kennedy, Superintendent.

H. C. Cammack, Treasurer; removed May, 1845.

J. L. Riddell, Melter and Refiner.

P. B. Tyler, Coiner.

Wm. P. Hort, still holding the office of Assayer.

Such is the present organization of the Mint, excepting the office of Treasurer, to which J. R. Macmurdo was appointed in May, 1845. We may add the following, appointed by the Superintendent:

F. W. Smythe, Clerk, annual salary ... $1200
Martin Kennedy, Weigher, " ... 1200
John Brooks, Foreman of Coining Department 1200
Salary of Superintendent 2500
Treasurer, Assayer, Coiner, Melter and Refiner, each 2000

Residences in the Mint edifice are held by the Superintendent, Coiner, and Melter and Refiner.

There are employed in the coining department 13 workmen, besides the foreman; in the melting department 5; in the assay department 1; in the weigh-room 1; as door-keepers, night and day police, 6. The average pay of these men is about $60 per month each.

From the peculiar position of New Orleans, it seems probable, now, that this mint will, in the future, subserve much more important national purposes than were at first generally contemplated. The amount of native gold annually raised in Alabama is greatly on the increase; the acquisition of Texas will, ere long, bring us abundance of silver and gold, from the rich mines of San Saba, within her borders; and, ultimately, much of the produce of the numerous and abundantly productive mines of the adjacent Mexican States. Precious metals unquestionably abound in Western Arkansas, and great abundance of silver, associated with cop per, etc., has lately been found in the copper regions bordering upon Lake Superior. A fair portion of all which this Mint will probably be instrumental in transforming into current coin. Moreover, we should bear in mind that vast

hordes of foreign emigrant coins, for which cotton, sugar, and Western produce are exchanged, by this institution are put through a process of naturalization, by which they become wholly Americanized, and induced to remain permanently in the country.

PART II.

Process of Coinage.

Silver and Gold are coined at this Mint into dollars, halves, quarters, dimes, half-dimes, eagles, half-eagles, and quarter-eagles.

Gold is presented to us in the form of foreign coin, bars, dust, and old jewelry; the most abundant foreign gold coins being English sovereigns, French Napoleons, patriot doubloons, and the coinage of different German States; while the unwrought gold is principally from the State of Alabama. Mexican dollars constitute the greatest bulk of the material for silver coinage.

Any person bringing good precious metal to this Mint for coinage, is entitled to receive back in American coins exactly the same amount of fine gold or fine silver which he brings, without deduction or expense; the United States Go-

vernment taking upon itself the expense of coinage. If the bullion, containing both gold and silver, require the operation of parting, or if toughening be required, then the actual expense of these operations is deducted from the value of the bullion, in favor of the Government.

Bullion is received by the treasurer, weighed in presence of the owner by the weigher, who gives a receipt for the actual weight in troy ounces and decimals. If it consist of mixed coins, or various bars, it is sent into the melting department, placed in a red-hot, clean black lead pot, melted, stirred up, and mixed, and cast into a homogeneous bar. It is next given to the assayer, who cuts off a piece of the bar, rolls out the piece, clips it with shears, and weighs out exactly 1000 milligrammes thereof, which he wraps up in lead, and places upon a white hot dish of bone earth: the whole melts, and, oxidizing, everything present is usually absorbed by the bone earth but the silver or gold. If pure silver alone remain, its weight in milligrammes shows how many thousandths fine the bullion is. The result is, however, corrected by what is called the humid assay, which depends on a definite precipitation of chloride of silver, from a solution of nitrate of silver, by definite measures of a solution of common salt of known strength. If the assay be one of gold, after the button of metal has been removed from the bone earth, it is melted with about three times its own weight of pure silver, the alloy is rolled out and repeatedly

subjected to the action of hot nitric acid, which dissolves and removes the silver, but leaves the gold. The latter is carefully washed, dried, annealed at a red heat, and subsequently weighed in milligrammes, by which the proportion of gold in 1000 parts is made apparent. With these data, the assayer then estimates the value of the bullion, whereupon the treasurer, if called upon, as promptly as practicable, pays the amount to the owner.

Parcels of bullion of known value, are, from time to time, delivered and debited to the melter and refiner, who manufactures the same into ingots for the use of the coiner. Upon the receipt of bullion, the melter and refiner assorts the bars into the following classes: A. Ready to be made directly into ingots. B. Requiring to be toughened. C. Requiring separation.

A. A melt is made up by arithmetical calculation, from bars of the class A, some above, some below standard in title, so that the result of melting and mixing may produce ingots 900·1000ths fine. In case of silver about 7000 troy ounces, equal to 480 lbs. avoird., are melted in a large cast-iron pot or crucible, surrounded by a charcoal fire, in a wind or draft furnace; and when the whole is in a state of fusion the mass is diligently stirred, and then, by hand, laded out and poured into smooth iron moulds, making slim ingots about 16 inches long. Gold is in like manner melted and cast into ingots in black-lead pots, each holding about 1600 ounces, near 110 lbs. avoird. The assayer next ascertains

that the ingots cast are of the legal fineness required, if not, they are condemned and have to be remelted. B. Bullion containing anything but gold, silver, and copper, usually requires to be toughened, an operation commonly performed in the Mint by repeatedly casting nitre upon the surface of the melted metal, stirring it about, and then skimming it off, with the dross from the base metal contained.

C. The mint processes followed for the separation of alloyed gold and silver, are as follows: In the first place the mixed bullion, if required, is melted with additional silver, so that the alloy may contain about three times as much silver as gold;—the melted metal is poured in a small stream from a height of a few feet into cold water, by which means it is obtained in a finely granulated condition; the granulated metal placed in a glass mattress, supported upon a sand bath, is boiled with nitric acid which dissolves the silver, but leaves untouched the gold, in the form of a dark powder. The dissolved silver is poured into a tub of strong brine of common salt, by which it becomes converted into a white powder, the chloride of silver. After repeated washing the chloride of silver is subjected to the joint action of metallic zinc and hydrogen gas, by which means it becomes changed to pure, finely-divided, solid silver. After being washed and dried, it is melted with nitre and borax, and cast into bars. The dark powder of gold is also carefully washed in hot water, dried, and in like manner cast into bars.

Consequent upon these operations, more or less gold and silver become mixed with ashes, dross, dirt, &c. All these matters are finely ground and washed, smelted, &c., for the extraction of the precious metal. But there will still remain a valuable residue, for which reason the sweepings are ultimately treated like poor gold or silver ores, metallurgic operations, the performance of which have heretofore not been allowed in this Mint. The sweepings are, in fact, sold abroad.

The gold and silver ingots, cut and trimmed, and their fineness or quality approved by the assayer, are next transferred by weight, through the treasurer's office, to the coiner. In the coining department they are repeatedly passed lengthwise betwixt smooth and powerful iron rollers, being annealed from time to time in a large annealing furnace, until, by the compression, the metal assumes the form of long, thin strips, the thickness of which approximates to that of the coin to be manufactured. The annealed strips, covered with a thin coating of wax or tallow, are then taken to a Burton's drawing machine, where, being drawn between polished steel surfaces, on the principle of wire-drawing, the thickness is reduced exactly to the extent required. To attain this nice result, the steel surfaces are adjustable, and trial pieces are punched out and weighed. The drawing machine, as here arranged, is an admirable piece of mechanism. If the strip be drawn a fraction too thin, which seldom happens, it is condemned

and returned through the treasurer's office, with all the residual clippings, to the melter and refiner, who consigns the whole to the melting pot.

The approved strips are next submitted to the action of a circular punch, which, at the rapid rate of one or two hundred per minute, cuts out the planchets or blank pieces, of the required size for the coin intended. A most curious mechanical process is that next in order, raising milled edges upon the planchets. They are rolled with great velocity edgewise between approximating circular steel surfaces, so that raised edges are produced at a rate, depending upon the size of the pieces, from one to seven hundred per minute. All the form-changing operations are now completed, preparatory to the actual coinage. Annealing and cleaning have next to be attended to. The planchets, with wax or tallow still adherent, are now heated to a dull redness in iron recipients placed in the annealing furnace, and poured, hot as they are, into a tub of diluted sulphuric acid, by which means all impurities are removed from their surfaces, the alloyed copper superficially dissolved away, and the clear, beautiful, dead-white appearance of pure unburnished silver is elicited. Adhering acid is washed away in water, and adhering water dried away by hot mahogany sawdust, in an ingenious rotating apparatus heated by steam, invented by the present coiner

The coining process consists essentially in compressing the prepared gold or silver blank, with very great force, between engraven dies of steel, of extreme hardness and high polish. The dies are prepared for this Mint by impression from male dies at the Mint in Philadelphia. The letter O, placed usually under the eagle, is intended to designate the coinage at New Orleans. In times of old very simple means were used in the process of stamping money, such as blows by a hammer, or compression by a plain, ordinary iron screw-press, the whole being performed by human labor. Coining in Mexico, South America, and many other parts of the world, is said to be still conducted according to the latter method; but here, as in England, France and elsewhere, the machinery for rolling, drawing, punching out, milling and coining, is driven by steam, and the coining presses in use are models of the great excellence to which the mechanic arts have attained. There are four presses in the coining-room, forming a series, in respect to size and strength, adapted to the stamping of the various coins, from the half-dime to the dollar. The mechanical principle brought into play is the same as that in the ordinary printing press—the genicular or elbow power, by which, with sustaining parts of sufficient strength, an almost incalculable degree of pressure may be commanded. Each operating press requires a man to watch it, to oil the joints occasionally, and to keep a vertical brass tube supplied with the

blanks or planchets to be coined. The untiring press goes on, seizing with iron fingers from the tube, a planchet of its own accord, carefully adjusting it to the retracted dies, squeezing it with a degree of force sublime to contemplate, and then quietly and safely depositing it in the box placed to receive it. From 80 to 150 pieces, dependent upon the size, are thus coined in one minute's time. The obverse, reverse, and indented work upon the edge, are all completed at a single effort of the press. Travel the world over, and you can scarcely meet with a more admirable piece of massive mechanism than the new press in the New Orleans Mint, for the coinage of dollars.

Though stamped and perfectly finished, gold or silver does not legally become money until the coiner has formally delivered it, by counting and weighing, over to the treasurer. It must be seen that the pieces possess the weight required by law. If any prove too light upon trial, a circumstance that rarely happens, such are defaced and condemned to be remelted.

All nations that aim to preserve what is called public faith, are religiously scrupulous to maintain, as far as practicable, the weight and quality of their national coins, in correspondence with the legal standards which they fix upon. Acting with this view, our Government has established an annual trial before special commissioners, to test and verify the standard value of the coins of the preceding year. This trial is held at the parent Mint, in Philadelphia. Subservient thereto,

it is the treasurer's duty to select assay coins indiscriminately from every parcel delivered by the coiner to the treasurer. The coins by him selected are properly labelled and formally placed in a tin box, secured by two locks, the key to one of which is kept by the assayer, the key to the other by the treasurer. The contents of this box are transmitted by the superintendent, through the Secretary of the Treasury, to the director of the Mint at Philadelphia, for the annual trial. The coinage of this Mint has thus far been approved, but it is worthy of remark that the average fineness of the gold coins issued is a trifle better than the mean standard contemplated by law—the average value of a New Orleans eagle being about three-fourths of a cent greater than similar coins from the Mints at Charlotte, Dahlonega or Philadelphia.